

NANO-SCALED DENDRIMER-BASED COLORIMETRIC BIOSENSORS

ABSTRACT OF THE DISCLOSURE

Molecular chemical and/or biological sensors that exhibit a very high density of sensing functionality and which are applicable to a wide variety of different analytes, and enable rapid, convenient and economical detection of analytes are prepared by reacting a dendritic polymer with a diacetylene reagent wherein the diacetylene functional groups are subsequently intramolecularly polymerized to form segments having alternating conjugated double and triple bonds. Sensory groups that can bind with an analyte are bonded to the acetylene monomer units to form molecular sensors that produce observable and measurable color changes when an analyte binds with the sensory groups.